

Quarterly Progress Report 1

For the project entitled:

A HIGH FIDELITY DRIVING SIMULATOR AS A TOOL FOR DESIGN AND EVALUATION OF HIGHWAY INFRASTRUCTURE UPGRADES

*Reporting Period: April 1 – June 30, 2006
(Fourth Quarter of State Fiscal Year 2006)*

Submitted by:

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Submitted to:

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August 29, 2006

Task A. Project Management

The initial task was management and coordination of the project including financial management, technical tracking and reporting. WTI (Kelly and Lassacher) teleconferenced with responsible MDT staff to obtain guidance on locations to be simulated and countermeasures to be tested.

Task B. Develop Tiles and Scenarios Specific to U.S. 191

This task was funded and conducted entirely by WTI with MDT advice. The specific area of U.S. 191 to receive safety countermeasures was defined based on identification of several accident clusters. The segment of US 191 between the mouth of Gallatin Canyon and Big Sky was selected. The simulator manufacturer, DriveSafety, Inc., was provided with topographic maps, as-built drawings, and latitude/longitude locations of all mileposts in that highway segment in sufficient detail to allow reproduction in custom simulator tiles. WTI defined the requirements and contracted with and supervised the contractor to assure accuracy and quality of the tiles. The tiles were delivered and installed in the WTI driving simulator on schedule. Some modifications/enhancements were requested from the contractor including additional guard rails and more accurate stationary signs and warnings. These improvements have been incorporated in the simulation. A demonstration of the custom system was planned for the NRITS meeting in August.

Task C. Evaluate Driver Performance and Behavior

Task C work is using scenarios developed using the custom tiles to simulate potential ITS deployments and to obtain data on a sample of drivers who drive on the simulated roadway. Sample scenarios and countermeasures are being developed. Situations conducive to accidents will be simulated and measures related to safety, vehicle control, will be made. A sample of approximately 35 drivers representing a mix of genders and ages will be recruited to represent the typical driving population of U.S. 191. These participants will drive a series of tests involving potential safety enhancements to the highway. They will also complete a written survey or interview about their reactions to the enhancements.

Task D. Validate Driver Performance Data

Task D will compare driver performance data collected in the simulator with available data from the selected roadway. A small sample of pilot data shows that speeds registered in the simulator are realistic varying between 50 and 65 mph depending on geometry and turn radius. Some data on speed studies already exists. WTI will compare simulator speed data with existing numbers. Comparison of the simulator data with the actual traffic data, whenever possible, will allow WTI to validate results of our prototyping studies and to determine ways to increase the accuracy of our projections.

Budget Category	Budgeted Funds	Spent this Period	Total Spent	Total Remaining
Salaries	15,232.00	4,653.40	4,653.40	10,578.60
Benefits	4,570.00	1,370.86	1,370.86	3,199.14
Travel		75.65	75.65	-75.65
Communication	100.00	62.61	62.61	37.39
Contracted Services	1,250.00			1,250.00
Supplies	100.00			100.00
Participant Support	700.00			700.00
MDT Direct Costs	21,952.00	6,162.52	6,162.52	15,789.48
Overhead	4,250.00	1,232.45	1,232.45	3,017.55
MDT Share	26,202.00	7,394.97	7,394.97	18,807.03
WTI/MSU Share	22,500.00	11,250.00	11,250.00	11,250.00
Total	48,702.00	18,644.97	18,644.97	30,057.03

Project Schedule Summary

An updated summary of the project schedule is shown in figure following. The project is scheduled to be completed in the next quarter. The project is on schedule with anticipated forecasts.

